COPY FOR MR. J. ALLAN ROSS

Engineering Lib

HYDRO-ELECTRIC INQUIRY COMMISSION

ECONOMICS

NIPIGON SYSTEM

ESTIMATES OF HYDRO-ELECTRIC POWER COMMISSION

WALTER J. FRANCIS, C. E.
CONSULTING ENGINEER

WALTER J. FRANCIS & COMPANY.
COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

ENGINEERING ECONOMICS - NIPIGON SYSTEM.

Walter J. Francis.

This document in its present form is intended to embrace all the documents in connection with the economics of the Nipigon System from July 19th, 1922, to September 1st, 1922.

On July 20th, 1922, I received the following letter from Mr. Commissioner R. A. Ross:-

COPY

(Letterhead - Hydro-Electric Inquiry Commission)

"TORONTO, Ont.
19th July, 1922.

Walter J. Francis, Esq.,
Consulting Engineer, Hydro-Electric Inquiry Commission,
110 Elm Street,
T O R O N T O, Ontario.

Dear Sir:-

"In order to determine a flat rate for horsepower for a period of years which may be acceptable to the power users who are in control of the situation, the Commission desires to have an authoritative statement from the Hydro-Electric Power Commission covering the economics of the whole situation at Port William and Port Arthur in its relation to the Nipigon plant, which will enable them to decide on such a price as will attract large users of power and at the same time, if possible, clear up the deficits of the earlier years with the profits of later years.

"With this end in view a letter should be written by you to the Hydro-Electric Power Commission asking for a statement covering the following:-

1. "Loads which might reasonably be anticipated on the Nipigon plant for each year for, say 15 to 20 years;

ENGINEERING ACCOUNTING - HYDRION SYSTEM.

Walter J. Francis.

This document in its present form is intended to embrace all the documents in connection with the economics of the Hydrion System from July 19th, 1922, to September 1st, 1922.

On July 20th, 1922, I received the following letter from Mr. Commissioner S. A. Ross:-

(Interdepart. - Hydro-Electric Inquiry Commission)

"TORONTO, Ont.
19th July, 1922.

Walter J. Francis, Esq.,
Consulting Engineer, Hydro-Electric Inquiry Commission,
110 Bay Street,
T O R O N T O, Ontario.

Dear Sir:-

"In order to determine a flat rate for horsepower for a period of years which may be acceptable to the power users who are in control of the situation, the Commission desires to have an authoritative statement from the Hydro-Electric Power Commission covering the economics of the whole situation at Port William and Fort Arthur in its relation to the Hydrion plant, which will enable them to decide on such a price as will attract large users of power and at the same time, if possible, clear up the deficits of the earlier years with the profits of later years.

"With this end in view a letter should be written by you to the Hydro-Electric Power Commission asking for a statement covering the following:-

1. "Loads which might reasonably be anticipated on the Hydrion plant for each year for, say 15 to 20 years;

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

2. "The capital investment in generating plant, transmission lines, sub-stations, etc., to serve such demand;

3. "All operating and fixed charges year by year to cover such demand;

4. "The cost per horsepower at Port William and Port Arthur on the above basis;

5. "The revenue to be derived from the sale of power under the above conditions;

6. "The deficits accumulated year to year by years during the period of deficits;

7. "The anticipated profits available to wipe out said deficits during later years;

8. "Under the above conditions the deficits and profits to be anticipated from continued flat rate during the entire period at $15.00, $17.50 and $20.00 per horsepower at Port William and Port Arthur."

Yours truly,

(signed) "R. A. Ross".

This letter I duly acknowledged, and in accordance with the request I addressed the following letter to Mr. Gaby:-

"Room 411 - 110 Elm St.,
TORONTO, Ont.
July 20th, 1922.

F. A. Gaby, Esq.,
Chief Engineer, The Hydro-Electric Power Commission,
190 University Avenue,
T O R O N T O, Ont.

re Economics - Nipigon Plant.

Dear Sir:-

"The Hydro-Electric Inquiry Commission has requested me to ask

MR. J. MILAN ROSS.

5. "The capital investment in generating plant, transmission lines, sub-stations, etc., to serve such demand;

6. "All operating and fixed charges year by year to cover such demand;

4. "The cost per horsepower at Fort William and Fort Arthur on the above basis;

5. "The revenue to be derived from the sale of power under the above conditions;

6. "The deficits accumulated year to year by years during the period of deficits;

7. "The anticipated profits available to wipe out said deficits during later years;

8. "Under the above conditions the deficits and profits to be distributed from commencement date during the entire period at $16.00, $17.50 and $20.00 per horsepower at Port William and Port Arthur."

Yours truly,

(signed) "R. A. Rose".

This letter I duly acknowledged, and in accordance with the request I addressed the following letter to Mr. Gaby:-

"Room 411 - 119 King St.,
TORONTO, ONT.
July 30th, 1928.

R. A. Gaby, Esq.,
Water Engineer, The Hydro-Electric Power Commission,
150 University Avenue,
T O R O N T O, Ont.

re Kaministiquia - Nipigon Plant.

Dear Sir:-

"The Hydro-Electric Inquiry Commission has requested me to ask

you if you will be so kind as to furnish the following information covering the economics of the situation at Port William and Port Arthur in relation to the Nipigon Plant. A statement by you covering the following points will doubtless suffice:-

1. "Loads which might reasonably be anticipated on the Nipigon Plant for each year for, say, 15 to 20 years;

2. "The capital investment in generating plant, transmission lines, sub-stations, etc., to serve such demand;

3. "All operating and fixed charges year by year to cover such demand;

4. "The cost per horsepower at Port William and Port Arthur on the above basis;

5. "The revenue to be derived from the sale of power under the above conditions;

6. "The deficits accumulated year to year by years during the period of deficits;

7. "The anticipated profits available to wipe out said deficits during later years;

8. "Under the above conditions the deficits and profits to be anticipated from continued flat rate during the entire period at $15.00, $17.50 and $20.00 per horsepower at Port William and Port Arthur.

"The Commission will be greatly obliged if you may be able to let me have this information at your earliest convenience."

Yours very truly,

(signed) "Walter J. Francis".

Mr. Gaby duly acknowledged the receipt of the communication, and on August 15th, 1922, he made a reply of which the next succeeding eight pages are the substance.

COPY FOR ENCLOSURE TO Mr. J. Allan Ross.

ENGINEERING ECONOMICS - NIPIGON SYSTEM.

Walter J. Francis.

The information embraced in the eight sheets attached hereto is contained in a letter addressed by Mr. F. A. Gaby, Chief Engineer, Hydro-Electric Power Commission of Ontario, to Mr. Walter J. Francis under date of August 15th, 1922, in reply to his request under date of July 20th, on behalf of the Hydro-Electric Inquiry Commission.

Mr. Gaby's letter and its accompanying memoranda being in the original form only, and the statement in duplicate only, and the Secretary of the Hydro-Electric Inquiry Commission having expressed a desire to have a copy of the information for each member of the Commission, the information has been re-tabulated into its present form in which it is hoped it may be found convenient.

A transcription of Mr. Gaby's letter, together with one of the copies of his original statement, is enclosed herewith for the files of the Commission.

It is thought that the eight tables of statements attached hereto are self-explanatory, after the basis on which they have been made up is understood.

The column headed "Year" in each case denotes the years in order from 1922 to 1935.

The column headed "Loads" denotes the estimated amount of electrical energy in nominal horse power, year by year. Mr. Gaby states that it is estimated the plant will have an installed capacity of approximately 75,000 horse

power, with yearly load factors varying from 65% to 70%, taking into consideration the character of the loads obtaining and estimated upon. Page 2 of the table is a transcription of the table of loads as billed to the Municipality of Port Arthur since November, 1921, and to the Nipigon Fibre and Pulp Company, all as given by Mr. Gaby.

Mr. Gaby concludes his memorandum on estimated loads, by saying,- "You will note from above that we have not taken into consideration additional loads that may come from industries that are not already established in these districts, and application has already been made for the amounts that are considered in these estimates". The memorandum forms the basis for the remarks on page 1 of the statement regarding loads.

The column headed "Capital Investment" gives the investment as estimated by Mr. Gaby under three headings - Transmission Lines, Generating Stations and Sub-Stations. He states that for 1924 the transmission lines are to be extended from the present temporary station to the permanent inter-city station, and that the capital cost therefor is included in the estimates.

The column headed "Operating and Fixed Charges" is copied directly as given by Mr. Gaby. In regard to it he says,- "The estimates for the first two years of 1922 and 1923 are based on the actual operating costs of today. 1924 is estimated under the changed conditions of increased capital and increased equipment on transmission lines, generating and transformer stations. Operation is increased approximately $22,750.00 due to the operation of the inter-city station ($9,000.00) and increased patrol of transmission lines, as well as increased operation at the generating stations. Maintenance is increased from $13,000.00 to $24,500.00, and water rentals from $12,500.00 to $18,750.00.

"In 1925 there is an increase in operating expense of $6,250.00 on account of water rentals; $6,500.00 increased maintenance and $1,500.00 on operating account, including administration.

"The increase in succeeding years is due largely to the increased capital and increased maintenance charges and water rentals".

Page 5 gives the estimated financial statement on the basis of the Hydro-Electric Power Commission's rates, which vary from $25.00 to $15.00 per year for inter-city power, and remain constant at $18.00 per year for power for the Nipigon Fibre and Pulp Company. Mr. Gaby uses the expression "beginning at $25.00 in 1922, and reducing to actual cost in 1928 of approximately $16.00, maintaining the $18.00 rate to the Nipigon Fibre and Pulp Company.

Page 6, page 7 and page 8 show estimated financial statements at a rate of $15.00, $17.50 and $20.00 per horse power per annum, respectively.

Mr. Gaby states that "The interest has been based on 5% as stated, sinking fund on 1% basis, and contingencies on 25% per horse power; depreciation charge on a sinking fund basis is based upon the life of the equipment and material included in the installation".

Walter J. Francis
Consulting Engineer.

Toronto, August 15th, 1922.

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO Mr. J. Allan Ross.

ECONOMICS - NIPIGON SYSTEM.

Estimated Loads.

Year	Load	Remarks
	H.P.	
1922	12,000	Actual conditions as per statement given on page 2 hereof.
1923	25,000	Includes additional 10,000 H.P. for the Nipigon Fibre and Pulp Co.
1924	30,000	Includes additional power taken by the Kaministiquia Pulp and Paper Co., and Provincial Paper Co. in Port Arthur, and general increment in Municipal load.
1925	40,000	Includes additional load of Fort William Pulp and Paper Co.
1926	50,000	Includes additional 10,000 H.P. for pulp and paper, and Municipal loads.
1927	60,000	Includes additional 10,000 H.P. for increment in loads and adding Municipal load of Fort William.
1928	65,000	Includes general increment.
1929	70,000	Includes general increment.
1930	70,000	
1931	70,000	
1932	70,000	
1933	70,000	
1934	70,000	
1935	70,000	

COPY

Loads at Port Arthur, November 1921 to July 1922.

Month	Year	Load
November	1921	8,259.48 horse power.
December	1921	8,083.00 horse power.
January	1922	7,989.50 horse power.
February	1922	7,962.40 horse power.
March	1922	7,701.00 horse power.
April	1922	7,711.89 horse power.
May	1922	9,534.90 horse power.
June	1922	9,569.00 horse power.
July	1922	9,551.00 horse power.
Average		8,484.66 horse power.

The foregoing table gives the loads which have been billed to date.

New elevator and additional demand on account of the fall movement of grain will bring the average for the year to approximately 9,000 horse power.

The Nipigon Fibre and Pulp Co. has been billed for 3,067 horse power throughout the year.

ECONOMICS - NIPIGON SYSTEM.

Estimated Capital Investment.

Year	Transmission Lines	Generating Station	Sub-Station	Total
	$	$	$	$
1922				6,522,000.00
1923				6,522,000.00
1924	1,770,000.00 (2 Circuits, Wood & Steel)	6,880,000.00 (3 Units)	500,000.00 (4-8000 KVA)	9,150,000.00
1925	1,808,000.00 (City Line added)	7,550,000.00 (4 Units)	698,000.00 (7-8000 KVA)	10,056,000.00
1926	1,968,000.00 (Extra Loop)	9,040,000.00 (5 Units)	710,000.00 (7-8000 KVA)	11,718,000.00
1927	2,204,000.00 (3 Circuits)	9,766,000.00 (6 Units)	900,000.00 (10-8000 KVA)	12,870,000.00
1928	2,204,000.00	9,766,000.00	900,000.00	12,870,000.00
1929	2,334,000.00 (Extra City Line)	9,766,000.00	900,000.00	13,000,000.00
1930	2,334,000.00	9,766,000.00	900,000.00	13,000,000.00
1931				
1932				
1933				
1934				
1935				

COPY FOR ENCLOSURE TO Mr. J. Allan Ross.

Estimated Operating and Fixed Charges.

Year	Operation, Maintenance Administration and Water	Interest, Sinking Fund Contingencies and Depreciation	Total
	$	$	$
1922	73,000.00	374,933.68 (No Sinking Fund)	447,933.68
1923	79,500.00	378,183.70 (No Sinking Fund)	457,683.70
1924	120,980.00	550,570.00 (No Sinking Fund)	671,550.00
1925	135,300.00	612,840.00 (No Sinking Fund)	748,140.00
1926	151,000.00	778,640.00 (Sinking Fund Begins)	929,640.00
1927	161,900.00	858,570.00	1,020,470.00
1928	161,900.00	858,570.00	1,020,470.00
1929	174,650.00	899,500.00	1,074,150.00
1930	174,650.00	908,560.00	1,083,210.00
1931			1,099,830.00
1932			1,111,350.00
1933			1,111,350.00
1934			1,112,650.00
1935			1,112,650.00

Note;- Estimates for 1922 and 1923 are based on actual operating costs of today.

Estimated Financial Statement, N. E. P. C. Basis.

Year	Load	Inter City Rate	Nipigon Fibre Rate	Estimated Revenue	Estimated Deficit	Estimated Surplus	Accumulated Deficit
	H.P.	$	$	$	$	$	$
1922	12,000	25	18	279,000.00	168,933.68	nil	
1923	25,000	20	18	480,000.00	nil	22,316.30	153,948.25
1924	30,000	20	18	580,000.00	91,550.00	nil	253,195.66
1925	40,000	20	18	780,000.00	nil	51,860.00	232,402.44
1926	50,000	20	18	980,000.00	nil	50,360.00	191,144.56
1927	60,000	20	18	1,180,000.00	nil	159,550.00	33,195.29
1928	65,000	14	18	1,060,750.00	nil	32,530.00	nil
1929	70,000	15	18	1,080,000.00	nil	5,850.00	nil
1930	70,000	15	18	1,080,000.00	5,210.00	nil	nil
1931	70,000	15	18	1,080,000.00			
1932	70,000	15	18	1,080,000.00			
1933	70,000	15	18	1,080,000.00			
1934	70,000	15	18	1,080,000.00			
1935	70,000	15	18	1,080,000.00			

Note:- Interest is compounded at 5% per annum.

Estimated Financial Statement, $15 per H.P. per Annum.

Year	Load	Rate	Estimated Revenue	Estimated Deficit	Estimated Surplus	Accumulated Deficit
	H.P.	$	$	$	$	$
1922	12,000	15	180,000.00	267,953.68	nil	267,953.68
1923	25,000	15	375,000.00	82,685.70	nil	364,014.06
1924	30,000	15	450,000.00	221,550.00	nil	603,764.76
1925	40,000	15	600,000.00	148,140.00	nil	782,093.00
1926	50,000	15	750,000.00	175,640.00	nil	1,000,759.76
1927	60,000	15	900,000.00	120,470.00	nil	1,171,267.75
1928	65,000	15	975,000.00	45,470.00	nil	1,275,301.14
1929	70,000	15	1,050,000.00	24,150.00	nil	1,363,216.20
1930	70,000	15	1,050,000.00	33,210.00	nil	1,464,587.01
1931	70,000	15	1,050,000.00	49,830.00	nil	1,587,646.36
1932	70,000	15	1,050,000.00	61,350.00	nil	1,728,378.68
1933	70,000	15	1,050,000.00	61,350.00	nil	1,876,147.61
1934	70,000	15	1,050,000.00	62,650.00	nil	2,032,804.99
1935	70,000	15	1,050,000.00	62,650.00	nil	2,196,885.24

Note:- Interest is compounded at 5% per annum.
No surplus is possible at $15 per H.P. per annum.

ECONOMICS - NIPIGON SYSTEM.

Estimated Financial Statement, $17.50 per H.P. per Annum.

Year	Load	Rate	Estimated Revenue	Estimated Deficit	Estimated Surplus	Accumulated Deficit
	H.P.	$	$	$	$	$
1922	12,000	17.50	210,000.00	237,933.66	nil	237,933.66
1923	25,000	17.50	437,500.00	20,183.70	nil	270,014.16
1924	30,000	17.50	525,000.00	146,550.00	nil	450,064.76
1925	40,000	17.50	700,000.00	48,140.00	nil	499,707.99
1926	50,000	17.50	875,000.00	54,640.00	nil	579,333.38
1927	60,000	17.50	1,050,000.00	nil	29,530.00	577,293.54
1928	65,000	17.50	1,137,500.00	nil	117,030.00	483,276.71
1929	70,000	17.50	1,225,000.00	nil	150,850.00	349,048.24
1930	70,000	17.50	1,225,000.00	nil	141,790.00	217,621.15
1931	70,000	17.50	1,225,000.00	nil	125,170.00	92,451.15
1932	70,000	17.50	1,225,000.00	nil	113,650.00	nil
1933	70,000			Approximately.		
1934	70,000			$16.00 Flat Rate.		
1935	70,000			to all Customers.		

ECONOMICS - NIPIGON SYSTEM.

Estimated Financial Statement. $20 per H.P. per Annum.

Year	Load	Rate	Estimated Revenue	Estimated Deficit	Estimated Surplus	Accumulated Deficit
	H.P.	$	$	$	$	$
1922	12,000	20	240,000.00	207,933.68	nil	207,933.68
1923	25,000	20	500,000.00	nil	42,316.30	173,898.24
1924	30,000	20	600,000.00	71,550.00	nil	254,143.15
1925	40,000	20	800,000.00	nil	51,850.00	212,397.30
1926	50,000	20	1,000,000.00	nil	70,380.00	149,139.16
1927	60,000	20	1,200,000.00	nil	179,350.00	nil
1928	65,000	16	1,040,000.00	nil	19,530.00	nil
1929	70,000					
1930	70,000					
1931	70,000					
1932	70,000					
1933	70,000					
1934	70,000					
1935	70,000					

Note:- Interest is compounded at 5% per annum.

Mr. Gaby's reply dated August 15th, 1922, as transcribed, was transmitted to the Commission by Mr. Francis on August 16th, 1922, and, after discussion, it was decided that Mr. Commissioner R. A. Ross, Mr. Commissioner Haney, Mr. Bower, Mr. Wegenast and Mr. Francis should make a further study of the matter and prepare a formal communication to Mr. Gaby regarding additional information and an amplification of his former reply.

The letter decided upon and duly sent to Mr. Gaby is as follows:-

(Letterhead - Hydro-Electric Inquiry Commission)

COPY

"Room 411 - 110 Elm St.,
TORONTO, Ontario.
August 16th, 1922.

F. A. Gaby, Esq.,
Chief Engineer, Hydro-Electric Power Commission,
190 University Avenue,
T O R O N T O, Ontario.

re Economics - Nipigon System.

Dear Sir:-

"As stated in my letter of yesterday, I transmitted your information on the economics of the Nipigon System to the Hydro-Electric Inquiry Commission, and the document was carefully read and fully discussed.

"As a result of the discussion, I am now directed to ask if you will be so kind as to amplify some of the statements, and also to let the Commission have your views on others. In setting forth the questions, the references are to the information in the bound form, a copy of which I forwarded to you today enclosed with yesterday's letter.

Page 1.

(a) "Should not the column headed "Load" be designated "Power Sales" or some such title? The Commission feels that as these figures have been used in the estimated returns, they are really sales quantities. They think that it might be preferable to make the column headed "Load" refer to the load generated rather than to the load sold, especially as the ultimate idea is to get the value of the power generated.

(b) "The Commission would like to have a detailed list of the written applications that have been made for power.

(c) "The Commission also desires to have a list of existing contracts with private companies, together with the general conditions, prices, and so forth, applying thereto.

Page 2.

(d) "The Commission desires to know what security the Hydro-Electric Power Commission of Ontario has from the Nipigon Fibre and Pulp Company. Understanding that the indebtedness of the Nipigon Fibre and Pulp Company up to October 31st, 1921, amounted to $42,037.57, and that the security bond therefor was $40,000.00, it would appear that the company owed the balance of $2,037.57 on October 31st, 1921. In addition, there is also the indebtedness for the power billed since October 31st, 1921. Have the successors of the Nipigon Fibre and Pulp Company obligated themselves to the Hydro-Electric Power Commission for the full amount and if so, in what way?

Page 3.

(e) "The Commission would like to have the blank spaces for 1922 and 1923 in the table filled out in the same manner as has been done for the years 1924 to 1930.

(f) "Mr. Clarkson's statement of the capital cost of the Nipigon System to October 31st, 1921, appears to be $6,463,158.12, made up as follows:-

Amount charged to Nipigon System
up to October 31st, 1921.....$6,347,705.45.
Add amount of investment in original
system.....$ 115,452.67.
Capital investment of Nipigon System
up to October 31st, 1921.....$6,463,158.12, in which the interest is calculated at the rate of 5% per annum.

"From this it would appear that the total capital investment for 1922 should be more than $6,522,000.00, and that for 1923 should be still greater than for 1922, apart altogether from the question of whether the rate of interest is 6.2% or 5%.

(g) "Does the expression "Generating Station" include all the equipment necessary to put the high voltage current on the transmission lines?

(h) "The Commission would like to have general details of the items of capital estimates.

(i) "Please state briefly what is meant by "City Line", "Extra Loop" and "Extra City Line".

Page 4.

(j) "The Commission would like to have the items in columns 2 and 3 separated into their component parts.

(k) "Please state the actual operating costs since the plant began operating.

(l) "Understanding that the water rentals were placed at $1.00 per horse power, per annum, please state how a lower rate is now arrived at, and give a copy of the documents relating thereto.

(m) "How are the totals arrived at for the years 1931 to 1935?

(n) "In computing the interest, in the event of the Government holding to the rate of 6.2%, how long could it be applied, or, in other words, what is the maturity date of the bonds to which the 6.2% rate applies?

"In this connection, what rate is the Government now getting?

"What is the basis for your view that the rate of interest will decline materially?

Page 5.

(o) "No "accumulated deficit" is given for the year 1922. Was there not a deficit as at October 31st, 1921?

(p) "What were the actual deficit figures for the year 1921, and for the succeeding months of 1922?

(q) "In a general way, what is the diversity factor as between the Hydro-Electric Power Commission and the Municipalities, and what are the principal diversity factors in the various plants at Nigara?

(r) "Is the Commission to assume that the deficit of $3,210.00 for the year 1930 is only a mathematical figure, and that the adjustment from time to time would make an exact balance?

"If I may not have made myself clear in the above questions, I shall be very glad indeed to discuss them with you at your convenience."

Yours very truly,

(signed) "Walter J. Francis",
Consulting Engineer.

Mr. Francis received the following reply from Mr. Gaby on September 1st, 1922:-

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

(Letterhead - Hydro-Electric Power Commission)

"TORONTO, Ont.,
28th August, 1922.
T.C.J.

Mr. Walter J. Francis,
Consulting Engineer, Hydro-Electric Inquiry Commission,
Room 411, 110 Elm St.,
T O R O N T O.

Dear Sir:-

"Replying to your communication of the 16th instant, with reference to report on Economics of the Nipigon System, the Commission begs to submit herewith the additional information which you have requested.

A - PAGE 1: "You are correct in your assumption that the figures submitted in our report under the heading of "Load" may also be designated as "Power Sold". It would be incorrect to base any calculations of the kind which you have requested on "Generated Load" as the value of such generated load is determined entirely by the energy sold, and for the purpose of a report such as you have requested, generated load would be of no value whatever, and as you state that the ultimate idea is to obtain the value of power generated, there is only one means by which this can be accomplished, viz,- the revenue obtained from power sold; consequently, all the Commission's computations in connection with estimates to municipalities are always based on the total load sold.

B - PAGE 1: "Attached hereto the Commission begs to submit details concerning applications for power.

"Up to the time prior to the delivery of power from the Nipigon Development all matters pertaining to the sale of power and applications in connection therewith, were handled directly by the Public Utilities Commission of Port Arthur, and since that time, as practically all the power is still being used by the Municipality of Port Arthur, a great many of these written applications have been directly with the municipality; requests for certain large loads, however, have been received at various times by the Commission and are listed herewith, together with copies of correspondence attached ---

"Great Lakes Pulp & Paper Company,
(Successors to J. J. Carrick)

[illegible]

[illegible]

[illegible]

B - PAGE 1: (cont'd-#2)

"Extract from letter of Mayor of Port Arthur dated January 9, 1917;

"Letter from Frank M. Keefer, Solicitor for J. J. Carrick, dated March 26th, 1917, stating that requirements amounted to 20,000 H.P. and requesting prices on various amounts up to 60,000 H.P.;

"A joint resolution of the Public Utilities Commission and the City Council of the City of Port Arthur, dated October 27th, 1917;

"Letter A. J. McKay, Solicitor for Great Lakes Pulp & Paper Co., dated November 21, 1919, stating that first unit would require 12,000 H.P.

"Extract from a communication from Sir Wm. Hearst dated June 4, 1918;

"Correspondence with L. L. Horton, President of the Nyando Pulp & Paper Corporation of Rochester, New York, which controlled large limits west of Port William and we understand disposed of same to the present Port William Pulp & Paper Company;

"Communication from Mr. L. L. Horton dated April 4th, 1918;

"Extract from report of Mr. F. F. Espenschied dated April 30, 1918, stating that Mr. Horton required from 8,000 to 10,000 H.P.;

"Communication from Mr. L. L. Horton dated December 27, 1918;

"Communication from Nipigon Fibre & Paper Mills, Limited;

"Communication from Messrs. Russell & Little dated April 23, 1920, stating that the Company's requirements by December 1, 1921, would be in the neighborhood of 7,000 H.P.;

B - PAGE 1: (cont'd-#3) "Communication from Mr. W. H. Russell dated March 13, 1920, saying that requirements would be from 6,000 to 10,000 H.P.;

"Communication from Mr. J. H. Black, dated January 25, 1922, stating that the new Company requires in the neighborhood of 8,000 to 10,000 H.P.;

"Kaministiquia Pulp & Paper Company;

"Communication from Mr. C. D. Howe dated May 21, 1920.

"A verbal request was also made by the Mayor of Port Arthur and the present Manager of the Kaministiquia Pulp & Paper Company when they were in Toronto between July 28th and August 12th, for 10,000 H.P. stating that the Company was prepared to use this amount of power soon as the Timber Limits could be secured from the government.

"A verbal request was made to the Commission by representatives of the Spanish River Pulp & Paper Co., on behalf of the Fort William Pulp & Paper Co., by personal interviews held in this office July 14th, 15th and 17th, when it was stated that the Company required to obtain from the Commission anywhere from 11,000 to 19,000 H.P.

"A verbal request was also made about a year ago for power by the Detroit Sulphide Co., by officials of the Company and their Port Arthur representative at a personal interview held in this office. This company operates considerable plant in the vicinity of Detroit and is now shipping a large amount of Pulpwood from the Port Arthur-Port William district obtained from settlers. This request has been followed up on several different occasions and the Company proposes to install a Mill as soon as the Timber Limits can be secured.

"Correspondence received from the Mayor and Public Utilities Commission of Port Arthur bearing on this subject under date of July 5, 1918, and February 13, 1918, is also attached hereto.

C - PAGE 1: "In the early part of 1922 an elevator company at Fort William, whose contract was expiring on April 30th, applied to the Commission for a supply of 500 H.P. at Port William. Prices were submitted and the Commission and the proposed customer signed the contract. The Commission was about to erect the necessary poles and line to serve them when Fort William council passed a resolution ordering the poles to be cut down if the Commission attempted to erect them. Telegrams were sent and these threats put into concrete shape.

C - PAGE 1: (Cont'd-#2) "Owing to the fact that power had to be there by May 1st, the Elevator Company could not take the chance of waiting for the discussion and legal status and cancelled their contract and renewed their contract with the Kaministiquia for a further term of five years; thus, owing to Fort William's action, deprived itself of 500 H.P. with every prospect of the Commission securing another elevator of nearly double the capacity, whose contract expired during the autumn.

"Telegrams are here to show that Fort William claimed that they were not consulted. A day was fixed on which all parties were advised to attend here. Fort William refused to attend but the elevator people did attend and owing to the shortness of time and the danger of delay they cancelled their contract and took power from the Kaministiquia people.

"Minutes of the meeting of the Board during the latter part of March will show this.

"The only existing contract which the Commission holds on file outside of the contract with the cities of Fort William and Port Arthur is that of the Nipigon Fibre & Paper Mills, Ltd., which is dated October 1st, 1920, covers a term of ten (10) years with the privilege of renewing for two five year terms, and covers various amounts of power from 3,000 to 8,000 K.W., with rates ranging from $24.00 per horsepower, per annum, up to 4,000 H.P. to $18.50 per H.P., per annum, when 10,000 H.P. is taken.

"The contract between the Port Arthur Pulp & Paper Company now controlled by the Provincial Paper Mills, Limited, is between the Company and the Public Utilities Commission, as is also the agreement with the Kaministiquia Pulp & Paper Company.

D - PAGE 2: "The security held by the Commission from the Nipigon Fibre & Paper Mills, Ltd., consists of a $40,000.00 bond; a Writ has been issued against the Bond Company for the amount of the Bond, and against the Nipigon Fibre & Paper Mills, Ltd., for the full amount of their indebtedness to the Commission. As we understand that you already have a copy of the agreement to be executed with the Successors to this Company, you will ascertain by referring thereto, information which you have requested, and you will also find that the new Company was required to give a Bond similar to their predecessors and at the same time agree to settle all indebtedness of their predecessors carried on our books on account of power sold.

E - PAGE 3: "The information in the blank spaces under the years 1922 and 1923 is as follows:-

ESTIMATED CAPITAL INVESTMENT

YEAR	Transmission Lines	Generating Station	Sub-Station	TOTAL
1922	$596,645.00	$5,775,693.00	$149,662.00	$6,522,000.00
1923	$596,645.00	$5,775,693.00	$149,662.00	$6,522,000.00

F - PAGE 5: "With reference to the total capital estimated on for the years 1922 and 1923, the Commission begs to advise that the actual capital on the Commission's books to August 24, 1922, for the generating station less the value of material returned to Stores was $5,745,099.06

"The capital in connection with transmission lines in the Commission's books up to the same date, less the cost of the original lines between the old Port Arthur sub-station and the Fort William boundary was.....$ 596,645.65

"The total capital on the Commission's books up to the same date, less the cost of the sub-station used in connection with distributing power received from the Kaministiquia Power Company was.....$ 149,662.76

TOTAL.....$6,491,407.47

"The difference between this amount and the $6,522,000.00 shown in the last column of Page for the years 1922 and 1923 is considered to be the cost of Operators' Cottages, and other improvements at the plant.

"The capital covered by the lines and station originally used to receive and distribute power purchased from the Kaministiquia Power Company have not been considered in the capital shown in the report, as negotiations have been going on for some time between the Public Utilities Commission of Port Arthur and the Hydro Commission covering the sale of these properties, and this report deals entirely with "Nipigon Development Capital".

F - PAGE 3: (Cont'd-#2)

"There is no reason whatever why the 1923 capital should be any greater than 1922, as for the purposes of this report we have not considered any additional capital expenditure in generating station, transmission lines or sub-station equipment until the installation of the third unit, which is covered by additional capital in the report under the year 1924.

G - PAGE 3:

"The capital shown under generating station includes all generating and step-up equipment up to the outgoing bracket on the generating station of the 110,000 V. transmission line.

H - PAGE 3:

"The general details of the items of capital estimates are as follows:-

"The capital given under transmission lines includes the value of all equipment used in connection with the said transmission lines from the outgoing bracket on the generating station to the incoming bracket on the sub-station.

"The amount of capital covered by the generating station includes the cost of all equipment involved in generating and transforming electrical energy and covers hydraulic and electrical generating equipment and all expenditures up to the outgoing bracket of the 110,000 V. lines on the generating station. The capital investment in sub-stations is covered by the present temporary sub-station at Bear Point and includes transmission, protective and switching equipment therein, plus new proposed intercity sub-station with similar equipment at a point central to both municipalities and located approximately on the boundary between same.

I - PAGE 3:

"Attached hereto you will find six diagrams showing the arrangement of the transmission lines at present, and proposed, under headings of.-

12,000 H.P. and 25,000 H.P.
30,000 "
40,000 "
50,000 "
60,000 "
70,000 "

"At the present time the transmission line leaves the generating station and runs in a south

I - Page 3: (Cont'd-#2)

westerly direction to Sprucewood at which point the line branches to Nipigon for the Nipigon Fibre and Paper Mills and also continues westward to Port Arthur.

"When the third unit has been installed, it is proposed to construct the transmission line from the generating station as far as Nipigon Village over a different route running almost directly south from the plant on the east side of the Nipigon River and from Nipigon Village westward over the same right-of-way as the existing lines.

"You will note that from the generating station via Sprucewood and Nipigon Village a loop circuit is formed so that with the double circuit lines one circuit goes via the old route, and one via the new, joining at Sprucewood.

"When 40,000 H.P. is sold the estimates cover an additional line from Bear Point to the Intercity Station, thus the expression "City Line Added".

"When 50,000 H.P. is sold it is proposed to construct a double circuit on the east side of the loop around Nipigon Village to Sprucewood, that is on the steel tower line, thus the expression "Extra Loop". When 60,000 H.P. is sold. it is proposed to construct three circuits as far as Bear Point, one being the original wood poleline and the other being two circuits on the steel towers only as far as Bear Point, from the latter location to the Intercity Station, it is only proposed to use two lines.

"With 70,000 and 75,000 H.P. sold, it is proposed to add the additional third circuit from Bear Point to the Intercity Station, hence the expression "Extra City Line".

J - Page 4:

"The items under columns 2 and 3 have been separated into their component parts and are attached hereto (Administration includes Head Office Operating Staff).

K - Page 4:

"The operating costs since the plant began operating are given in the following,-

"Included in these figures are the total operating expenses for the year ending October 31, 1921 and for the nine months ending July 31, 1922,-

K - Page 4:
(Cont'd-#2)

	1921	9 mos. ending July 31, 1922.	Total
	$	$	$
Operation.....	32,610.28	29,983.50	62,593.78
Maintenance.....	1,617.54	3,367.30	4,984.84
Administration...	11,192.50	10,588.14	21,780,64
Interest.....	177,999.88	247,585.66	425,585.54
Contingencies....	-	2,250.00	2,250.00
Depreciation.....	-	34,125.48	34,125.48
	223,420.20	327,900.08	551,320.28

L - Page 4: "Up to the present time no agreement between the Commission and the Government in the nature of a Crown Lease has been completed and the matter is still being negotiated. Communications have been received from the Deputy Minister of Lands & Forests desiring that the water rental be placed at $1,00 per H.P. per annum and the Commission has strongly objected to this figure on account of the fact that it will be competing with the Kaministiquia Power Company, which pays no rental. The Government has, we understand made leases to other similar developments at a rental of 50 cents per H.P. per annum. The matter has been discussed at Board Meetings on various occasions and has been left in the hands of Colonel Carmichael to further negotiate. The Commission takes the stand that the water rental should not be in excess of 50 cents per H.P. per annum and have used this figure in making up estimates in connection with the report which we have submitted to you. Such being the case, it is impossible to submit to you copy of any Lease or Agreement with the Government as none such exists at the time.

M - Page 4: "The totals from 1931 to 1935 are arrived at on account of deferred sinking fund. You will note that we have not considered sinking fund payments as becoming effective until the year 1926, therefore, it has been necessary to carry the operating expenses and the revenue figures five years beyond 1930 in order to arrive at the point where the sinking fund would be the same each year, considering that no new capital is added after the plant has been completed in the year 1929 when generating station, transmission lines and substations have been completed for the entire plant output.

N - Page 4: "The Commission is unable to give you any information in connection with the maturity bonds as such matters are handled by the Government, and funds furnished the Com-

[illegible]

N - Page 4: (Cont'd-#2) mission are obtained from the consolidated fund. The Commission is basing its interest charges on 5% in all of its estimates on account of promises made by members of the Cabinet to the Chairman and other officers of the Commission at a Conference held in the Premier's office. This matter has further been dealt with by Auditor Clarkson.

O & P - Page 5: "1921 was not taken into consideration in this report as it was assumed that the information desired was expected results from several years full and complete operation of the plant, and as the plant was partly under construction in the year 1921 it was not considered equitable to take this year into consideration at all in submitting a report such as you have requested. The actual deficit on the Commission's books as at October 31, 1921, was $18,706.83, which was fully covered by surplus in the Commission's hands. We are unable to determine until the accounts are adjusted at the close of the present year (October 31, 1922) what our deficit will be for the current year.

Q - Page 5: "The Plant has not yet been operating for a long enough period to give you any information in connection with diversity, as there has been only practically one customer and that is the City of Port Arthur. The Nipigon Fibre & Paper Mill's plant has not been in operation long enough to give any definite information as to this question. It should be borne in mind that it is quite possible that all of the power with the exception of the Nipigon Fibre and Paper Co's plant will be handled by either Port Arthur or Port William, and, under such conditions, there would be three customers, The Nipigon Fibre and Paper Co., The City of Port Arthur and the City of Port William, with a certain diversity between the three, depending u pon the times during the day when the maximum peak of each would occur. As Port Arthur is the only customer using energy at the present time, it is impossible to determine what the diversity factor will actually be. Attached hereto, under separate statement, will be found information concerning diversity conditions on the Niagara System.

R - Page 5: "As far as the deficit of $3,210.00 is concerned in 1930, it will be noted that there was a surplus of $30,530 shown in 1928 and a further surplus of $5,850 in 1929 so that if a deficit of $3,210 occurred each year for several years, it would take approximately fifteen (15) years before the accrued deficits would balance the

R - Page 5:
(Cont'd-#2)

surplus; consequently, it was considered that this matter would adjust itself.

"It should be borne in mind also that there is a large load in the City of Fort William now being served by the Kaministiquia Power Co., which is bound to be obtained by the Hydro Commission as soon as lines are constructed in the City of Fort William.

"Had the City of Fort William adopted a different attitude in the past than it did, there is no doubt whatever but that a load of approximately 5,000 H.P. in the City of Fort William could have been obtained by the end of the current year in the nature of the Consolidated Elevator Co., the Mutual Elevator Co. and the Canadian Pacific Railway load.

"As these contracts and several others will expire in about five (5) years time, there is no doubt but that a large portion of the existing Fort William load will become connected to the Hydro System."

Yours truly,

COPY

(Signed) "F. A. Gaby"

CHIEF ENGINEER.

Great Lakes Pulp and Paper Company

Extract from Letter of the Mayor of Port Arthur, dated January 9th, 1917.

"I think we are safe in assuming that the requirements of the City of Port Arthur within the next three years considering only what industries are now in view, that this City will require somewhere between 10,000 and 14,000 H.P. In excess of the above requirements, we have been dealing with a News Print Mill who are apparently anxious to locate here adjacent to the Pulp Mill referred to above. Naturally we are anxious to obtain the location of this Mill here as it means the employment of something like 1200 men. I think we can arrange all the terms for the location of this Mill, except the supply of power. This company wishes to be assured of a supply of 16,000 H.P."

COPY

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

COPY

March 26th, 1917.

The Chairman,
Hydro-Electric Power Commission of Ontario,
Toronto, Ont.

Dear Sir Adam:-

"I have been instructed by Mr. J. J. Carrick to apply to your Commission for the delivery of power to some industries that he intends to have located adjacent to Bear Point and the northerly limits of Port Arthur.

"The following are the particulars:

1. "Quantity: The amount of power required is 20,000 - 24 hour H.P. for use in the pulp and paper industry.
2. "Time: It will be wanted in about eighteen months from date.
3. "Temporary Power: Prior to the delivery of the above quantity to the extent of about 2000 to 3000 H.P. will also be wanted.
4. "Situation: The property will be situated in the Municipality of Shuniah immediately adjoining the limits of Port Arthur.
5. "Price: Being for the Pulp and Paper industry, the price is of course of considerable importance, and I would respectfully ask that you have your engineers furnish as soon as possible an estimated price on the above quantity of power, also as to when it can be delivered.

"This application together with the power requirements for the City of Port Arthur alone, will justify a development of at least 30,000 H.P. and from now on additional power will be steadily demanded at the head of the Lakes.

"In the quotation it would be very obliging if the prices are quoted as either stepped down or high tension at the plant, which for the purpose of estimation, can be considered as the north-easterly boundary line of the City of Port Arthur. Also in quoting prices please quote same as when 20,000 H.P. is consumed also what when 30,000 is consumed by Mr. Carrick and the City of Port Arthur, and then what will be prices when consumption rises to 40,000, 50,000 and 60,000.

6. "Time to Contract: In view of the investment being made, it is desirable to obtain as long a time contract as possible - say forty or fifty years - just as Port Arthur is asking.

"I have represented to Mr. Carrick that the prices quoted by you will be reduced as the quantity of power used is increased and that the Hydro-Electric not making any profit in the matter will be delivering the power at cost, which cost will include a sinking fund, interest and maintenance.

"Mr. Carrick would be greatly obliged if an early reply to this letter can be obtained as he wishes to see his financial associates in the City of New York and lay same before them for immediate action."

Yours very truly,

(signed) "Frank H. Keefer"

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

Copy of Resolution Passed at Joint Meeting of the Public Utilities Commission and the City Council of the City of Port Arthur, Ontario, held October 27th,1917.

"Whereas J. J. Carrick and his associates are considering the construction of works for the development of the pulp resources of this District.

"And whereas it is of vital interest to the City of Port Arthur and vicinity that these works be constructed in or near to Port Arthur.

"And whereas the development of electric power is a very important factor in connection with the said works, and also to the upbuilding of the City of Port Arthur and the development of such power would have the effect of bringing other manufacturers and power-using enterprises to this vicinity and be a great benefit to the whole community.

"Therefore, be it resolved that this matter be placed before the Government of the Province of Ontario, and it be urged to develop or cause to be developed or otherwise acquired such quantity of electric power as will be necessary to supply Mr. Carrick's proposed industry and other proposed industries which we have no doubt will follow if a supply of power is on hand. As time is a most important element the Government be urged to give this important matter its immediate attention as delay is most likely to be fatal".

COPY

COPY

Schedule
Port Arthur, Ont., Nov. 21st,1919.

To the Mayor and Council
of the City of Port Arthur,
Port Arthur, Ont.

Gentlemen:-

"At a formal meeting held with the Council yesterday, I was requested to write a letter setting out what the Great Lakes Pulp & Paper Company, Limited contemplates doing with regard to the erecting of paper mills in this District.

"The Company is considering the establishment of pulp and paper mills on, or in the vicinity of Mining Location 7-E, McGregor Township, about three miles from the north boundary of the City, and is in a position to promptly proceed with the work of clearing the site, getting material on the ground and commencing the construction of the buildings.

"It is intended to erect a first unit of two-paper making machines making 33,000 tons of paper per annum, and in addition, to operate a sulphite mill and ground wood mill. The investment in the first unit, consisting of paper, sulphite and ground wood mills, will represent an outlay of approximately $4,000,000. The erection of this first unit will be in excess of the requirements of the contract between the Ontario Government and the Company.

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

"The Company will employ in the operation of this first unit at least 500 men, and in addition a large number of men will be employed in the woods.

"The plans of the Company provide for the early addition of a second unit, that is two more paper making machines, as soon as the first unit is in proper operation, and later on a third unit of two additional paper making machines, making three units altogether, or a total of six paper making machines. The number of employees will of course be proportionately increased as these units are added.

"The Company proposes taking power from the Hydro-Electric Power Commission of Ontario, the amount required for the first unit, paper sulphite and ground wood mills being 12,000 H.P.

"At our conference yesterday, it was suggested that Port Arthur is desirious of securing the benefits which may accrue from the establishment of this industry. The practical working out of this idea will require the providing of lines of communication between the City and the site of the proposed mills, such as a highway, and street railway and telephone lines.

"Will you be good enough to advise me what proposals you are prepared to make to this end, so that I may be able to make an immediate decision as to our future plans".

Yours very truly,

(signed) "A. J. McKay".

Extract from letter of Sir William Hearst, dated June 4th, 1918.

"I simply want to point out, at the earliest possible moment, that no power development at Nipigon could be considered that will not provide for the power requirements necessary for the development of the Nipigon pulp concessions".

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

Norton Interests - Nyando Pulp & Paper Company.

COPY

NYANDO PULP & PAPER CORPORATION,
Manufacturers of
Lumber, Pulp and Paper.

ROCHESTER, N.Y.,
April 4th, 1918.

Hydro-Electric Power Commission of Ontario,
190 University Avenue,
TORONTO, Ont.

Gentlemen:-

"I am pleased to acknowledge receipt of your letter of April 1st enclosing copy of agreement form E. 1-1220. I believe this form will be of material assistance to us in arriving at our requirements for electric energy at Fort William.

"Will you kindly advise me if the transmission line is erected and maintained to our plant at Fort William, also at whose expense the transformer house is erected and equipped?.

"I notice in paragraph 2-j that the customer is to secure the right-of-way for poles, etc. does this mean that we are to secure the right-of-way from Nipigon to Fort William, or just what does it mean?

"I trust as per our conversation on Saturday last with Mr. Gaby that you will advise us by mail promptly or by telegram the approximate cost of this power to us at Fort William per horsepower per 24 hour service per annum based on a 10 minute load and a 90% power factor.

"Will you also advise me if we may contract for a term of 50 years? As I understand it, as the entire consumption of the Nipigon power is taken up, the rates per horsepower per annum are lower, that is to say, the initial rate may be a certain amount, but if the entire consumption of the development be used, our rate would be, in that case, much less per horsepower per annum.

"We expect to have another meeting in about one week at which all of these matters will be decided, and it is for that reason I should like to be fully posted as to rate, possible term of contract, date when we may receive service, and how much lower than the initial charge will take place as additional power is sold from the Nipigon development by you."

Yours very truly,
(signed) "L. L. Horton", Pres.

P.S. Under contract how do you arrive at the H.P. used per month?.

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

Extract from Report of Mr. Kapauschied, Dated April 30, 1918.

April 30th, 1918.

Chief Engineer,

Fort William.

"This morning Mr. L. LaVerne Horton, President of the Nyando Pulp & Paper Corporation, Rochester, N. Y., called at this office in company with a gentleman from Fort William. After conversing with you on the telephone on this matter I had a talk with Mr. Horton on the question of a power supply in Fort William. He advised that he had practically completed arrangements for financing his proposed enterprises requiring from 8,000 to 10,000 H.P. in Fort William as soon as we could supply it and that he is extremely anxious to hear from the Commission on the question of price and quantity. I explained that the estimates were still incomplete and that they would have to be taken up with the Commission before they could be discussed with him. Mr. Horton expressed the hope that he could secure advice from us this week, but I advised that it did not seem possibe with the amount of work now on hand. I told him that possibly early next week such information would be available, but that I could not promise him anything definite".

COPY

COPY

NYANDO PULP AND PAPER CORPORATION.

ROCHESTER, U.S.A.
Sept. 27th, 1918.

Mr. F. A. Gaby,
Chief Engineer, Hydro-Electric Commission of Ontario,
TORONTO, Canada.

Dear Mr. Gaby:-

"Since seeing you last week I have had a talk with my associates in New York, and have told them that you are anxious to know whether or not they are prepared to contract for power at the present time.

"These gentlemen are still ready to go ahead with the proposition providing a low price for power can be obtained, subject of course, always, to interference with our plans due to conditions brought about by the war. They feel, however, that the price quoted by you, namely $20.00 per H.P. year, is prohibitive and that they would not be warranted in making the large investment unless they can be assured of an adequate supply of cheap power.

WALTER J. FRANCIS & COMPANY.

COPY FOR ENCLOSURE TO MR. J. ALLAN ROSS.

"In case you could see your way to quote us a low price we would be willing to use as much off-peak power as possible. This would have to be worked out, however, by engineers before the exact amount of off-peak power could be determined.

"We are all greatly disappointed. We still hope that Sir Adam may be able to quote a figure low enough to warrant us in going ahead.

"If the operation of the first unit shows satisfactory results - especially in connection with freight rates and labor conditions, I know that my associates are prepared to add additional units making the plant one of the largest in Canada or the United States."

Yours very truly,

NYANDO PULP & PAPER CORPORATION,

(signed)"L. L. Horton", President.

COPY

Nipigon Fibre & Paper Mills, Ltd.

COPY

Port Arthur, Ontario,
April 23rd, 1920.

Hydro-Electric Power Commission of Ontario,
190 University Avenue,
Toronto, Ontario.

Dear Sirs:-

Attention W. W. Pope, Secretary.

"In accordance with conversations with your Chief Engineer, Mr. F. W. Gaby, on the 29th ultimo and 1st instant, we hereby make application for the supply to us of power at our proposed site for pulp mill development on the East Part of Lot Number Ten in the Second Concession of the Township of Nipigon as follows:-

"On January 1, 1921, or earlier, 3,500 H.P. with the privilege of increasing the above amount in units of 1,000 H.P. on thirty days' notice for each unit up to and including December 1, 1921, when we will require 6,500 to 7,000 H.P.

"It is our understanding that the Commission would prefer to deliver us power at a tension of 2,200 volts so as to assist in the delivery of power to the Munici-

pality by the Commission; and you will recall that the price as nearly as could be approximated when we say you, was sixteen dollars and fifty cents ($16.50) to seventeen dollars ($17.00) per horsepower per year at the voltage stated.

"We contemplate the ultimate erection, in addition to a mechanical pulp mill of one hundred tons daily capacity, (24 hours), of a paper mill; and in the latter event, we estimate that our total requirements for power will be ten thousand (10,000) horsepower at, say, January 1, 1924, although in our present application, we do not contemplate a larger consumption than 6,500 - 7,000 H.P., as stated.

"We also understand from our conversation with you that in the event of the total amount of power requested to be delivered for any given date not being entirely used, we are charged by the Commission with seventy-five per cent (75%) of such total so requested or the actual amount of power when same is in excess of such percentage.

"Will you kindly act as promptly as possible on our application and furnish us in due course with copies of proposed contracts covering same for our examination and approval."

COPY

Yours truly,

(signed) "W. H. Russell"
"J. A. Little"
For Nipigon Fibre and Paper Mills, Limited.

COPY

RUSSELL TIMBER COMPANY, LIMITED.

Port Arthur, Ontario.
March 13th, 1920.

Messrs. Hydro-Electric Power Commission of Ontario,
University Avenue,
Toronto, Ontario.

Dear Sirs,-

"We have definitely decided on the construction of a Pulp and Paper Mill in the District of Thunder Bay and Province of Ontario and have been looking over all the available sites for same in both Port William and Port Arthur, as well as elsewhere in the District.

"We are inclined to believe, that the proper place for us to locate is on certain land which we own at Nipigon, but in order for us to form an intelligent

decision it is necessary for us to know how soon you could supply us power at this point and also what the price would be at high tension voltage there. We assume that there will be considerable deferential, as to price in favor of Nipigon over the head of the Lakes on account of the shorter transmission.

"We will require, as soon as you can deliver, at least 4,000 H.P. which would be increased within twelve months to 6,000 and within three years to from nine to 10,000.

"If you think it advisable, the writer could come to Toronto at your convenience to discuss this matter with you.

"Thanking you in anticipation of an early reply, we are,

Yours truly,

RUSSELL TIMBER COMPANY, LIMITED.

COPY

(signed) "W. H. Russell",
President.

COPY

Toronto, Ontario.
January 25th, 1922.

Hydro-Electric Power Commission of Ontario,
TORONTO,
Ontario.

Dear Sirs:-

Re: NIPIGON FIBRE CO.

"Referring to my interview with your Mr. Gaby and Mr. Jeffery beg to say the above Company as you are aware has been idle for months and from appearances is in rather desperate shape financially. I have interested some capital in this proposition and desire to reconstruct the whole proposition on good sound business lines, increasing the capacity to a proper economical point from the standpoint of efficient operating, namely 100 tons of ground wood pulp for newspaper use per day using upwards of 8,000 H.P., with sufficient working capital and wood supply. The present capacity is around 30 to 40 tons daily.

"Among the mass of accumulated bills for payment and other documents found is the contract with your Commission for power, and my financial group asked me to discuss with you the possibility of reduction in rates. My people feel the rate should be $17.00 per H.P. year measured on low tension side instead of the sliding

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scale now in contract ranging from $24.00 per H.P. to $18.50 for a block of 10,000 H.P. or over.

"I have been advised the general principle surrounding your operation, namely power at cost, which would not operate to our benefit on such a contract as now exists with present Company, and feeling you are desirous of creating a load for your generating station, which I am informed has a large surplus of unsold power, believe you will give same your usual careful consideration doing the very best possible for us. May add I would not like anything to interfere with my closing with the capital interested now. You can appreciate now is the time capital needs encouragement.

"Beg to say further, that the writer has not at any time been connected in any way with the Nipigon Fibre Co.

"It will be necessary to get speedy reply, as stated before have this capital interested now, but may not be able to have them continue."

Yours respectfully,

COPY

(signed) "J. H. Black",
36 Toronto Street.

Kaministiquia Pulp & Paper Company.

COPY

C. D. HOWE & COMPANY

Port Arthur, Ontario.
May 31st, 1920.

The Ontario Hydro Electric Power Commission,
University Avenue,
Toronto, Ontario.

Dear Sirs:-

"Confirming conversation between the writer and your Mr. Gaby of May 28th, our Clients, the Kaministiquia Pulp & Paper Company, desire to enter into a contract with your permission to obtain about 2,000 H.P. of power at 22,000 volts delivered to their substation on their site at Fort William.

"The Company have at present two sites under consideration, one site being located on the property of the Canadian Government Railways at the Mission, Fort

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William, adjacent to the Grand Trunk Pacific Elevator, and a second site located on the Mission side of the Kam River at the turning basin, above the Grand Trunk bridge. It seems probable that the first mentioned site will be chosen.

"We anticipate that delivery of power will be required about October 15th.

"We would ask that you submit to us a contract made out in the name of our Clients, and based on location of the mill on the property at the Mission alongside the Grand Trunk Pacific Elevator. We would also ask that you advise us the price for power delivered to the last mentioned site at the turning basin.

"We desire to close this contract within the next two weeks as all financial arrangements for this undertaking are complete, and building will start at once.

"In case you wish to investigate the financial responsibility of our Clients, we would refer you to A. E. Osler and Company of Toronto, who are financially interested in this project.

Yours truly,

COPY

(signed) "C. D. Howe".

Miscellaneous - Port Arthur-Fort William.

COPY

MAYOR'S OFFICE.

Port Arthur, Canada,
July 5th, 1918.

W. W. Pope, Esquire,
Secretary, Hydro-Electric Commission,
TORONTO, Ontario.

Dear Sir:-

"Yours of the 2nd. instant received. I am enclosing a letter sent to me by The Public Utilities Commission, which explains the sentiment of both Cities, who are, I regret to say, forming the impression that the Provincial Government has not the interest of the North Western portion of the Province fully at heart.

"What Port Arthur and Fort William are anxious to know now is what is holding up the construction and at what date you have decided to start operations. As the

matter now stands, we are right up against it, and our industrial development is blocked for want of power policy. Mayor Murphy informs me that he has a customer now for 7,000 horse power, but can get nothing definite from you.

"A concrete proposition at an early date, will be appreciated by the residents at the Head of the Lakes. If it will be of any assistance to you, we can send a joint delegation down to press matters.

"Awaiting your reply, I am,

Respectfully yours,

(signed) "Edward Bloquier",
Mayor.

COPY

COPY

THE PUBLIC UTILITIES COMMISSION
OF THE CITY OF PORT ARTHUR.

Port Arthur, Ontario.
February 13, 1918.

The Hydro-Electric Power Commission,
190 University Avenue,
TORONTO, Ontario.

Attention of Sir Adam Beck.

Dear Sirs:-

"At a meeting of the Public Utilities Commission of the City of Port Arthur, the under noted resolution was unanimously adopted. The contents of the said resolution we trust, you will give your very earnest attention and that the agreement duly signed and forwarded by us to your good selves in April of last year be executed by your Commission and the copy returned to us in order that we can feel assured that every effort is being made to satisfy the demands for energy when our existing contract expires in April, 1920.

"Thereas, former written application was made jointly by this Commission and the City Council of Port Arthur, dated the 11th of November, 1915, to the Hydro-Electric Power Commission of Ontario, for the development of Dog Lake or Silver Falls in order that the necessary electrical energy be available to supply the ever increasing demand in the District of Thunder Bay and the City of Port Arthur in particular for industrial purposes.

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'"AND WHEREAS, the action of this Commission and the City Council with respect to future power requirements of this City being negotiated through the Hydro-Electric Power Commission was fully endorsed by the results of the vote on Hydro By-Law submitted to the Rate Payers of this City on the 1st of January, 1917.

'"AND WHEREAS, an agreement sufficiently broad and general in its application to permit your Commission making the best possible arrangement for this City was signed by the Executive Officials of this City, and forwarded to you in April, 1917.

'"AND WHEREAS, the total amount of power now purchased through the Hydro-Electric Power Commission in addition to our own Current River Supply is 4,100 H.P. and before December, 1918, owing to additional elevators building, we more than expect our requirements through the Hydro-Electric Power Commission to exceed 5,000 H.P., the maximum possible under our old contract.

'"AND WHEREAS, our existing contract expires in April, 1920, making the time for the construction of a new development, if such is necessary, none too long for satisfactory completion of such construction.

COPY

'"BE IT RESOLVED, that the attention of the Hydro-Electric Power Commission be again drawn to this very important question of future power supply and the critical situation which is liable to develop and over which we have no control, unless immediate and satisfactory arrangements are consummated forthwith, whereby such supply as embodied in the above mentioned agreement can be fully and finally secured."'

" As this matter is of vital importance, we hope to have at least some information as to the progress being made to assure our various industries their future supply of power, and awaiting the favour of your reply, we are,

Yours faithfully,

PUBLIC UTILITIES COMMISSION,

CHAIRMAN."

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COPY FOR ENCLOSURE TO Mr. J. Allan Ross

Details of Operatig

Minimum

Year	Operation	Maintenance	Administration	Water Rent	Total
	$	$	$	$	$
1922	40,000.00	12,000.00	15,000.00	6,000.00	73,000.0
1923	40,000.00	12,000.00	15,000.00	12,500.00	79,500.0
1924	54,000.00	25,400.00	22,750.00	18,750.00	120,900.0
1925	55,500.00	31,800.00	23,000.00	25,000.00	135,500.0
1926	61,000.00	37,000.00	23,000.00	30,000.00	151,000.0
1927	62,000.00	43,500.00	23,900.00	32,500.00	161,900.0
1928	62,000.00	43,500.00	23,900.00	32,500.00	161,900.0
1929	62,000.00	46,500.00	28,650.00	37,500.00	174,650.0
1930	62,000.00	46,500.00	28,650.00	37,500.00	174,650.0
1931					
1932					
1933					
1934					
1935					

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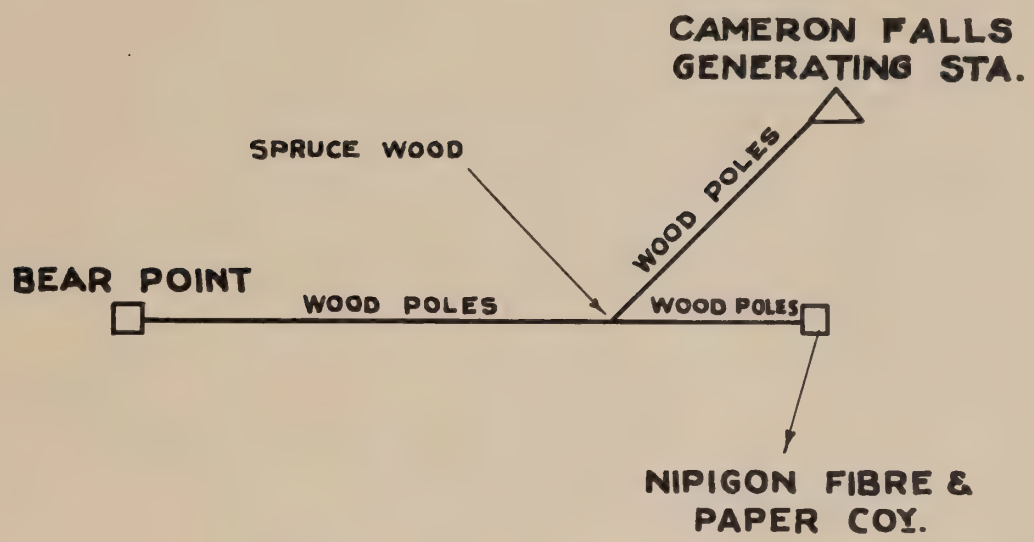
and Fixed Charges

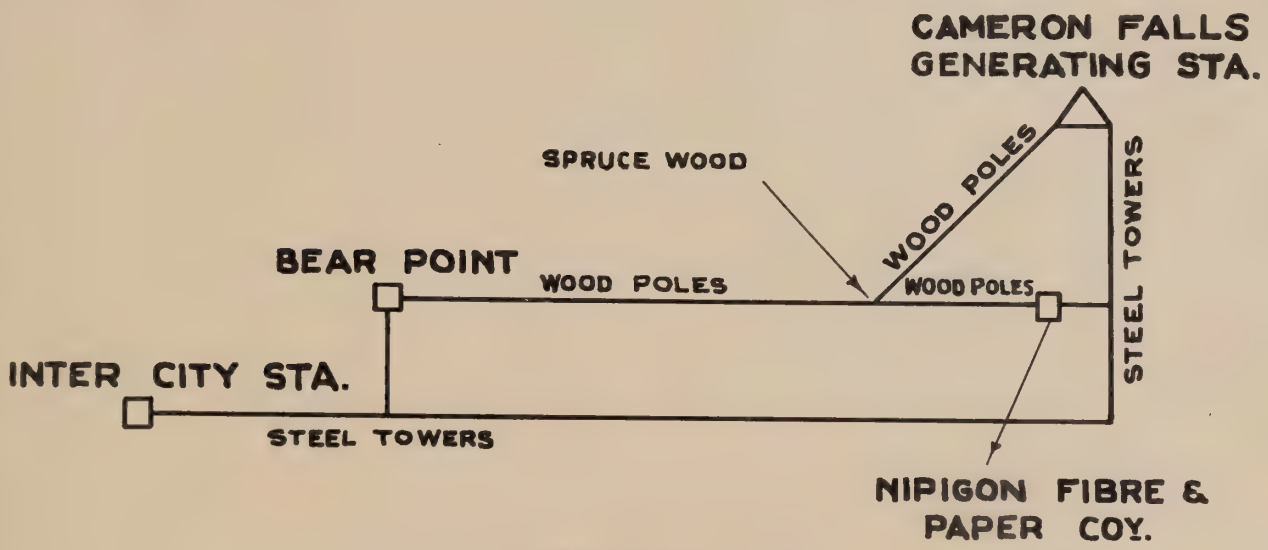
System

Interest	Sinking Fund	Contingencies	Depreciation	Total	Operation and Fixed Charges GRAND TOTAL
$	$	$	$	$	$
326,100.00	nil	5,000.00	45,833.68	374,933.68	447,933.68
326,100.00	nil	6,250.00	45,833.70	378,183.70	457,683.70
457,500.00	nil	9,375.00	83,695.00	550,570.00	671,550.00
502,800.00	nil	12,500.00	97,540.00	612,840.00	748,140.00
503,600.00	65,220.00	15,000.00	114,820.00	778,640.00	929,640.00
643,500.00	65,220.00	16,250.00	133,600.00	858,570.00	1,020,470.00
643,500.00	65,220.00	16,250.00	133,600.00	858,570.00	1,020,470.00
650,900.00	91,500.00	18,750.00	138,350.00	899,500.00	1,074,150.00
650,900.00	100,560.00	18,750.00	138,350.00	908,560.00	1,083,210.00
	117,180.00				1,099,830.00
	128,700.00				1,111,350.00
	128,700.00				1,111,350.00
	130,000.00				1,112,650.00
	130,000.00				1,112,650.00

COPY



12,000 AND 25,000 H.P.



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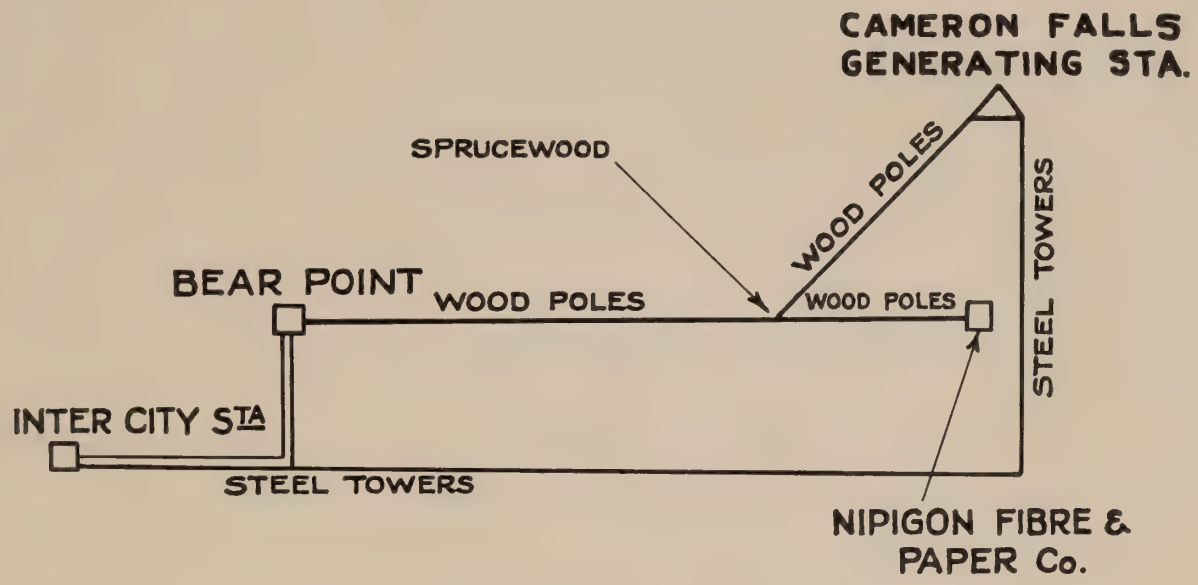

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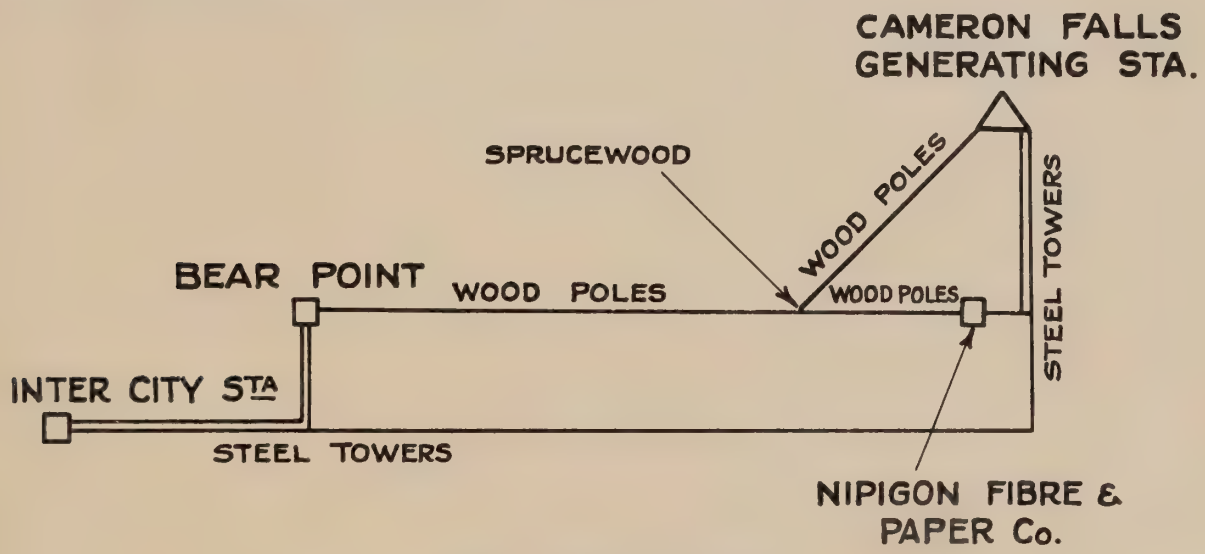

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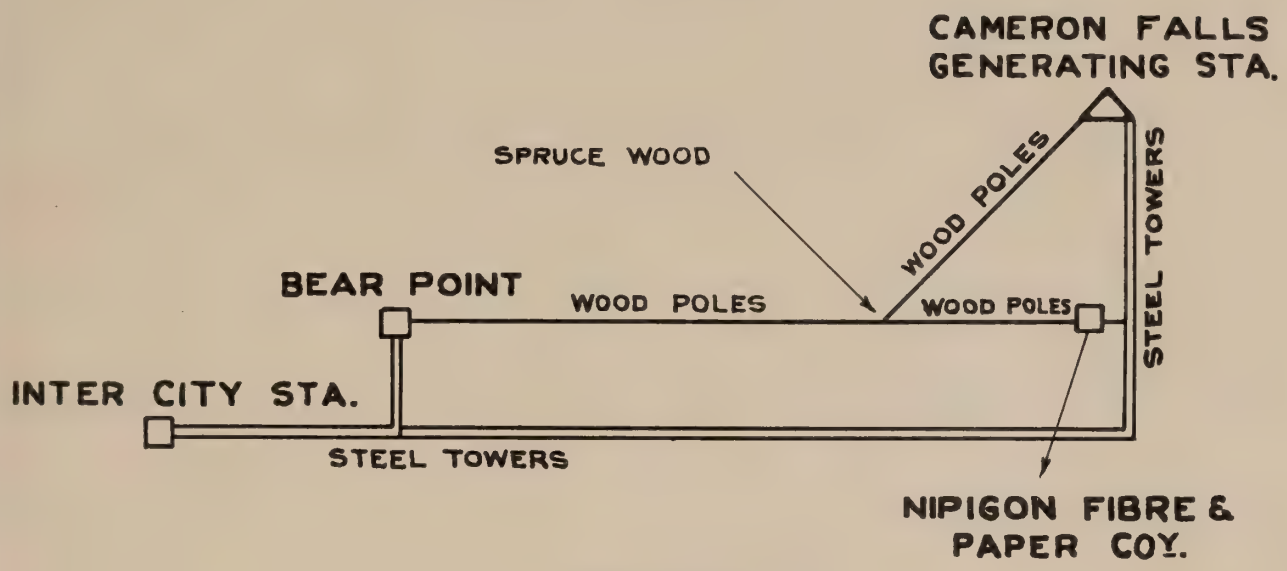
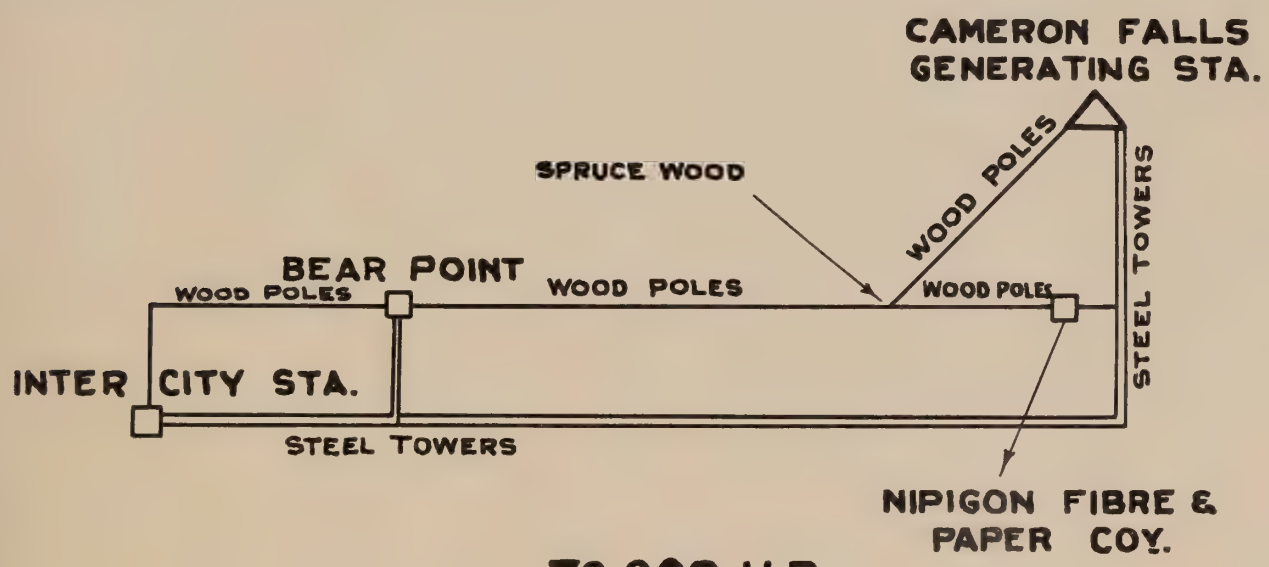


60,000 H.P.



70,000 H.P.

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DIVERSITY - NIAGARA SYSTEM.

"In regard to the diversity on the Niagara System, I give below approximate average figures for the last four (4) years,-

1918 - 14%
1919 - 5%
1920 - 2%
1921 - 2%

"The above figures were derived from the sum of the power purchased and the sum of the power sold and do not take into consideration the system losses".

COPY

After a personal conference with Mr. Gregory, it was decided that Mr. Gaby's reply dated August 28th, 1922, should be transcribed and incorporated into one volume prepared in multiple for the individual use of the Commissioners, and this volume has been accordingly completed.

Walter J. Francis

Toronto, September 2nd, 1922. Consulting Engineer.
